

MMWR Express: Lessons learned from public health mobile app development

Tom Savel, MD

Director, Informatics Innovation Unit (IIU)
Office of Public Health Scientific Services (OPHSS)

CDC Health Information Innovation Consortium's (CHIIC) Quarterly Forum
May 13, 2014

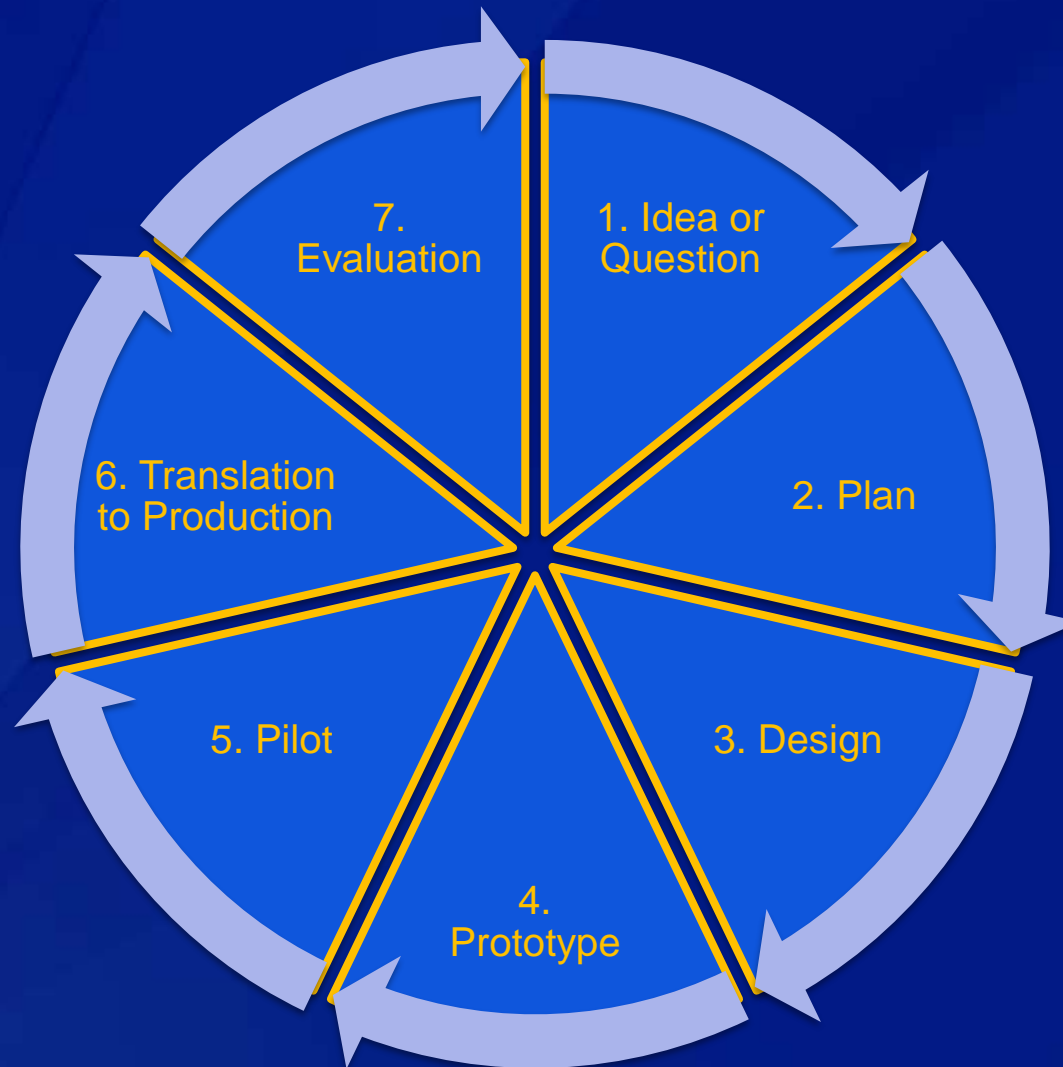
Overview

- **Who we are and how we work...**
- **Context of the project / The Challenge**
 - Vision
 - Stakeholders
 - Individual program perspectives
- **Our Approach**
- **Opportunities for reuse within other programs**
- **Potential enhancement areas**
- **Validated Learning / Lessons Learned**
- **Q&A**

Informatics Innovation Unit (IIU)

- **A resource to CDC and the public health community that studies, prototypes, and tests new and innovative technology-based tools and resources to maximize programmatic public health impact.**
- **Our philosophy is, “Improving public health through better, faster, and low-cost technology experiments.”**

Our approach: Informatics Innovation Lifecycle



Project Context / The Challenge

- Vision
 - Provide MMWR content via iPhone...with a user experience that is fast, easy, and relevant
 - Content: The MMWR Weekly summary blue boxes
- Stakeholders & Program Perspectives
 - OPHSS
 - MMWR
 - IIU
 - Public – new and existing MMWR users

The Idea Phase

- ❑ **Goal is to quickly understand the problem / need**
- ❑ **Questions:**
 - What do you want to do?
 - Who is going to use it?
 - Personas
 - What is the context?
 - Is there a gap to fill?

regimen containing sofosbuvir, a drug approved in December 2013. Arizona and Utah started treatment with a sofosbuvir-based regimen in 35.8% (29 of 81) and 10.4% (five of 48) of patients, respectively, during December 2013–February 2014.

Discussion

The implementation of the Project ECHO model in two states demonstrated the utility of this care model in expanding the capacity of primary care clinicians to treat HCV infection. By building collaborations with specialists facilitated by regular videoconferencing, both states recruited and trained clinicians from predominantly rural settings. Almost all (93.9%) of the primary care clinicians had no prior experience in managing HCV infection. Approximately 46% of all patients seen started treatment, a proportion that was more than twice that observed from a CDC study in which 14%–22% of those detected started treatment (3). In a study comparing care delivered by specialists in an HCV clinic at an academic medical center with HCV care and treatment delivered by primary care providers participating in teleECHO clinics, investigators found that care at both settings was equally safe and effective in achieving cure (6). Project ECHO also has been shown to develop knowledge and self-efficacy among participating primary care providers to deliver best-practice care for chronic HCV infection (7).

Each state adapted the Project ECHO model to fit expected needs of its program. In Utah, the health department played an important role in case finding, including those lost to follow up, whereas in Arizona, hepatitis C coordinators were hired to assist clinicians with case management. Arizona also had more frequent presentations (each patient was seen every week), and treatment initiations were synchronized by site.

The findings in this report are subject to at least four limitations. First, treatment completion among some patients who started treatment could not be assessed because patients were either on treatment or had completed therapy and had pending laboratory data at the time of this evaluation. Second, the reasons that treatment was not initiated for some patients could not be assessed. Third, the analysis did not compare differences between Project ECHO implementation in each state and patient treatment decisions. Finally, both Utah and Arizona had either developed a Project ECHO-based program or were in the process of developing it during the 1 year before September 2012; therefore, these state programs might not be representative of programs that might be earlier in development.

CDC and the U.S. Preventive Services Task Force recommend HCV testing for persons born during 1945–1965 and others at risk for HCV infection (8). Studies have revealed

What is already known on this topic?

In the United States, about 3 million persons are estimated to be living with hepatitis C virus (HCV) infection, which is an important cause of morbidity and mortality. However, there is a documented lack of expertise in HCV-related care and treatment among U.S. primary care providers and limited access to specialists, both of which serve as barriers to life-saving treatment for those who are infected. The Extension for Community Healthcare Outcomes project (Project ECHO) has been shown to be an effective model to overcome these barriers.

What is added by this report?

The Project ECHO model was successfully implemented in two states, training 66 primary care clinicians, predominantly from rural settings. Nearly all (93%) of the clinicians had no prior experience in care and treatment of HCV infection. In both states combined, 46% of HCV-infected patients seen in teleECHO clinics received antiviral treatment, a proportion that was more than twice that observed in a CDC study, further demonstrating the utility of this approach in expanding the capacity of primary care providers to treat HCV infection.

What are the implications for public health practice?

The Project ECHO model is an effective evidence-based model that can be used by state and local areas to enhance capacity to manage and treat HCV infection, especially among underserved populations.

that full implementation of these recommendations can avert approximately 120,000 HCV-associated deaths (9). However, limitations in care capacity, particularly in rural areas and other resource-constrained settings, are barriers to achieving the public health benefits of HCV testing, care, and treatment. With training and supervision by specialists, HCV antiviral treatment can be safely and effectively delivered in primary care settings (6,10). Additional safe and effective HCV therapies currently under development could provide new options for primary care clinicians to incorporate management of HCV infection into their practices. Collaborations with specialists will help primary care providers to begin to incorporate new treatments for HCV infection and will be an important measure for improving access and reducing barriers to treatment. The results of this evaluation demonstrate Project ECHO as a model that can enhance primary care provider capacity to treat HCV infection among underserved populations, including the use of newly approved medications.

Acknowledgments

Sanjeev Arora, MD, University of New Mexico Health Sciences Center. Gilberto Ramirez, MBA, Division of Viral Hepatitis, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, CDC.

The Design Phase

❑ Focus on User Experience

- Outcome of this may impact the software architecture

❑ Now is not the time to constrain, just yet....

❑ Artifacts:

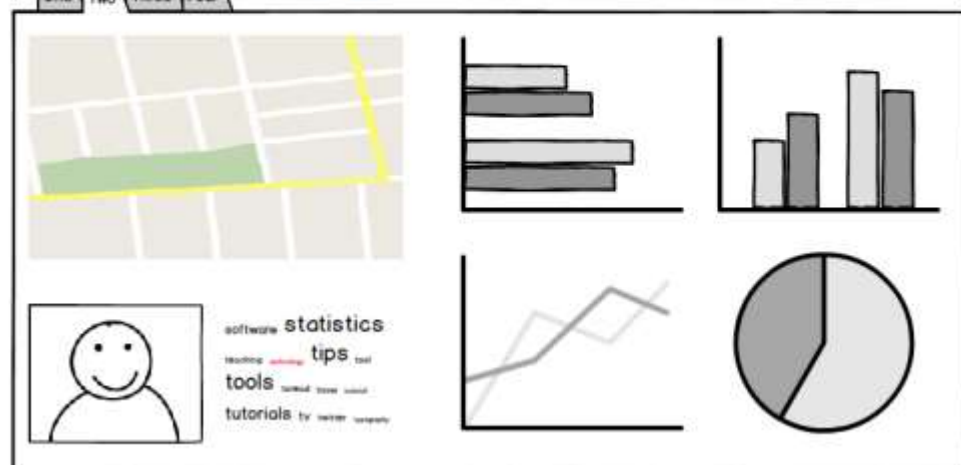
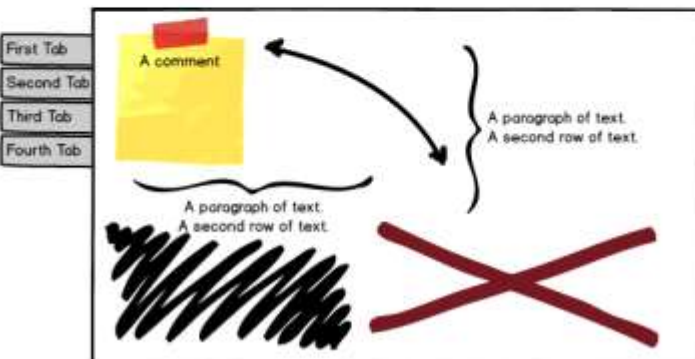
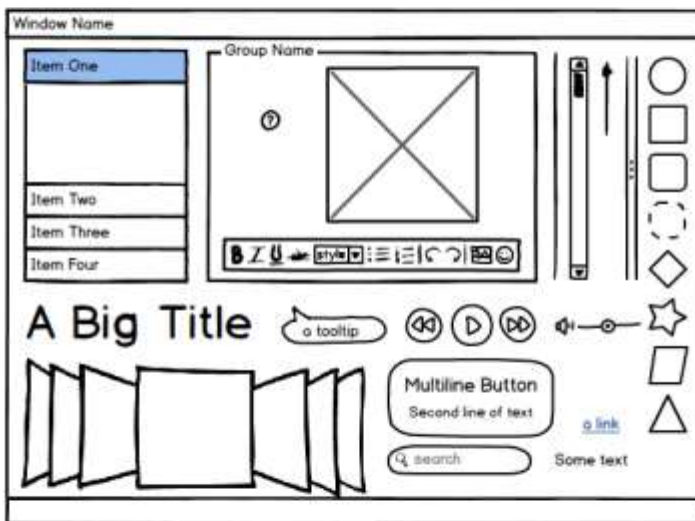
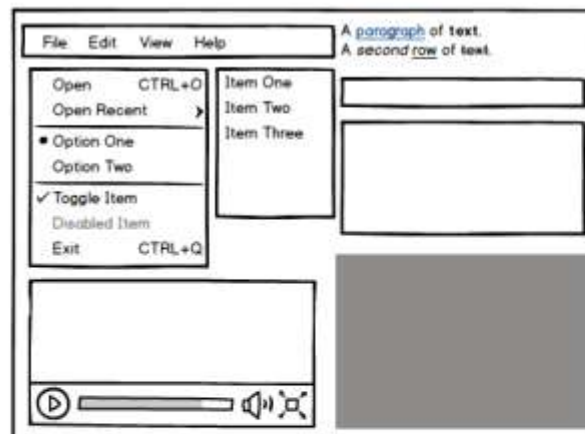
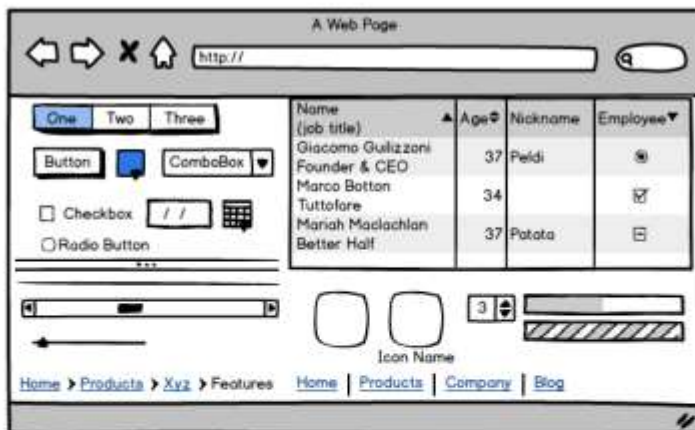
1. First... Lo-fidelity Digital Mockup
2. Then.... show the draft design to developers
3. Finally... High Fidelity Digital Mockup

❑ Tools:

- Balsamiq Mockups – to create
- Notableapp.com – to share
- Many other rapid prototyping tools

The Design Phase

- Examples of key tools





Apollo_updated_wireframes



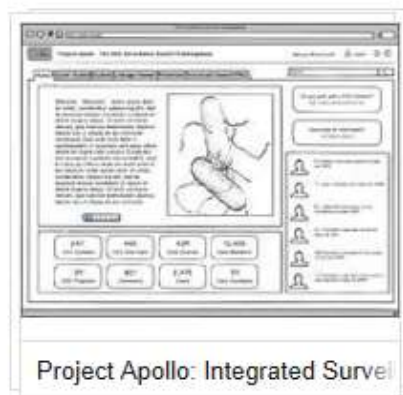
5 / 13 31



Apollo Hi-fidelity mockups



5 / 11 5



Project Apollo: Integrated Survey

6 / 9 30



iOS Walking Prescription App

3 / 10 25



Family Health Tree app



10 / 23 66



Retro II initial wireframes



2 / 7 19



Information Architecture for IIU

2 / 4 5



Anticoag Advisor -iOS- V2

2 / 5 16



Us!

om/sets/54232

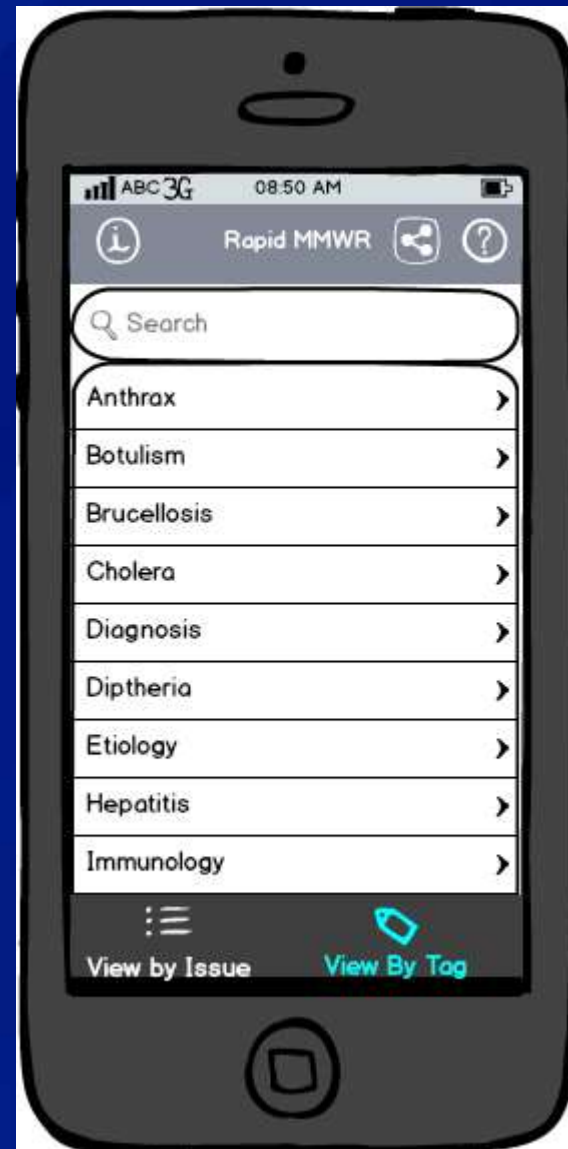
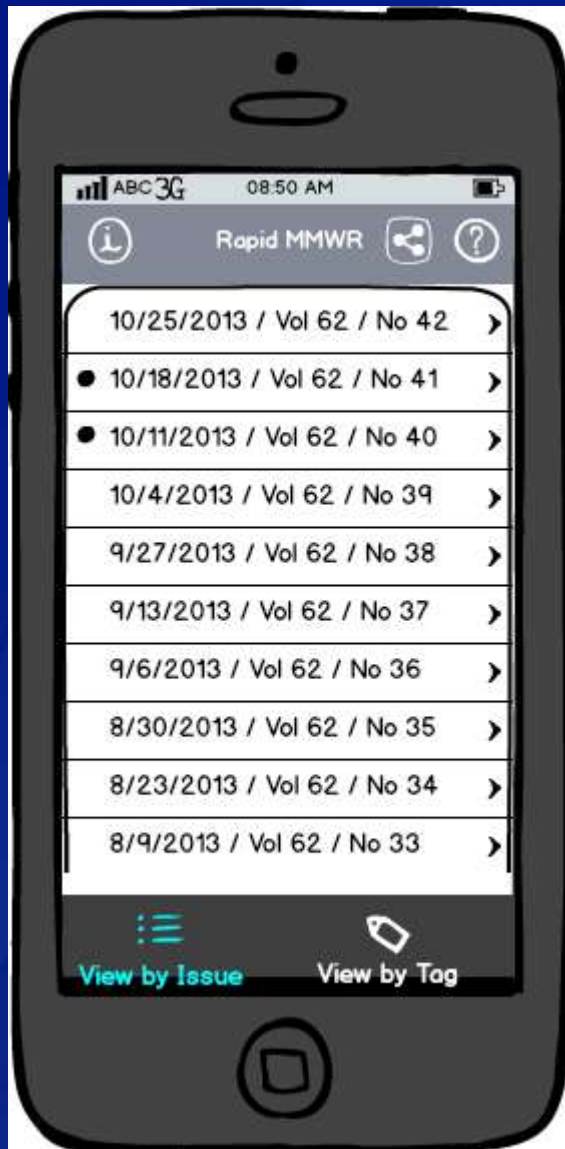


11-01-2013 / Vol 62 / Issue 43



The Design Phase

Lo Fidelity Digital Mockup





RAPID MMWR EDITOR

Welcome, @TimSmith39 Logout



Add a new Highlight

Published **Drafts**

search published

Filter Highlights: 2013

Article Highlights List

October 25, 2013 / Vol. 62 / No. 42 / Pg. 829-833, ND 579 - 592
Progress Toward Global Eradication of Dracunculiasis — January 2012–June 2013

October 25, 2013 / Vol. 62 / No. 42 / Pg. 829-833, ND 579 - 592
Histoplasmosis in a State Where It Is Not Known to Be Endemic — Montana, 2012–2013

October 25, 2013 / Vol. 62 / No. 42 / Pg. 829-833, ND 579 - 592
Update: Influenza Activity — United States and Worldwide, May 19–September 28, 2013

October 4, 2013 / Vol. 62 / No. 39 / Pg. 805 - 816, ND 536 - 549
Transmission of Mycobacterium tuberculosis in a High School and School-Based Supervision of an Isoniazid-Rifampine Regimen.

Article Details

Issue Date: 10/25/2013

Issue Volume: 62

Issue Number: 42

Article Title: October 25, 2013 / Vol. 62 / No. 42 / Pg. 829-833, ND 579 - 592
Progress Toward Global Eradication of Dracunculiasis — January 2012–June 2013

Article Keywords:

Dracunculiasis

Global

Parasite

infection

worm

eradication

Highlight Information

What is already known on this topic?

The number of new cases of dracunculiasis (Guinea worm disease) occurring worldwide each year has decreased from an estimated 3.5 million in 1986, when the World Health Assembly declared global elimination as a goal, to 542 in 2012.

What is added by this report?

The number of dracunculiasis cases reported worldwide in 2012 declined by 49%, compared with 2011, and by 77% from January–June 2012 to January–June 2013. Transmission remains endemic in four countries, with South Sudan accounting for 83% of all reported cases during January–June 2013.

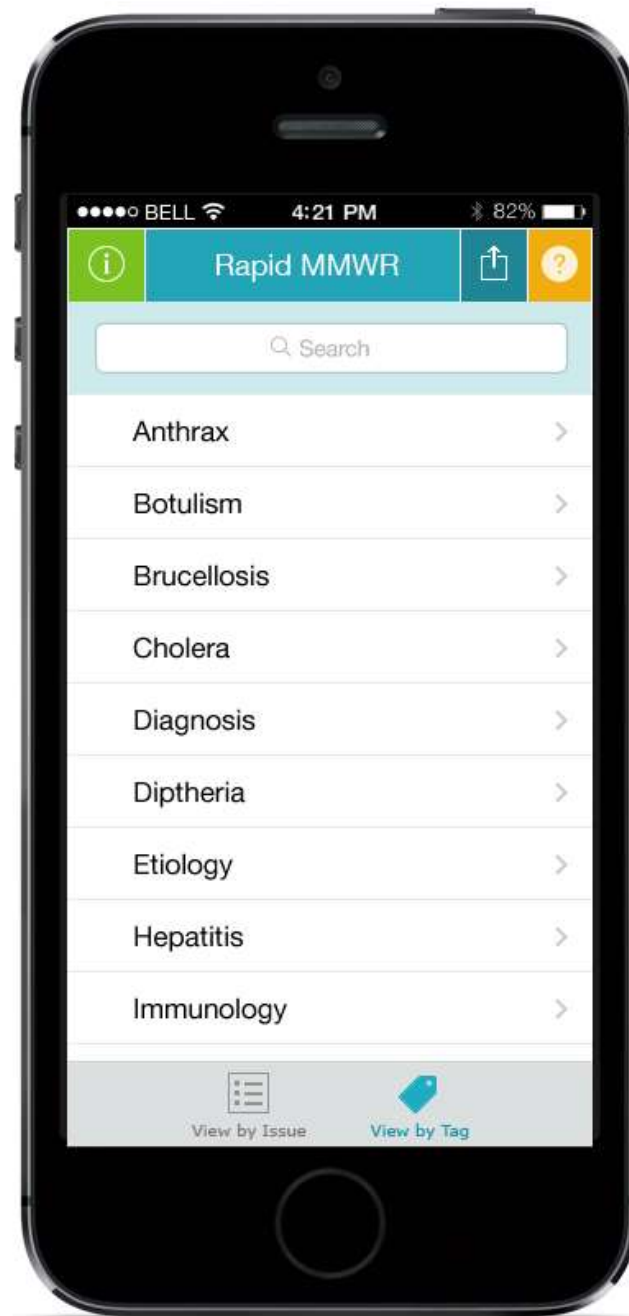
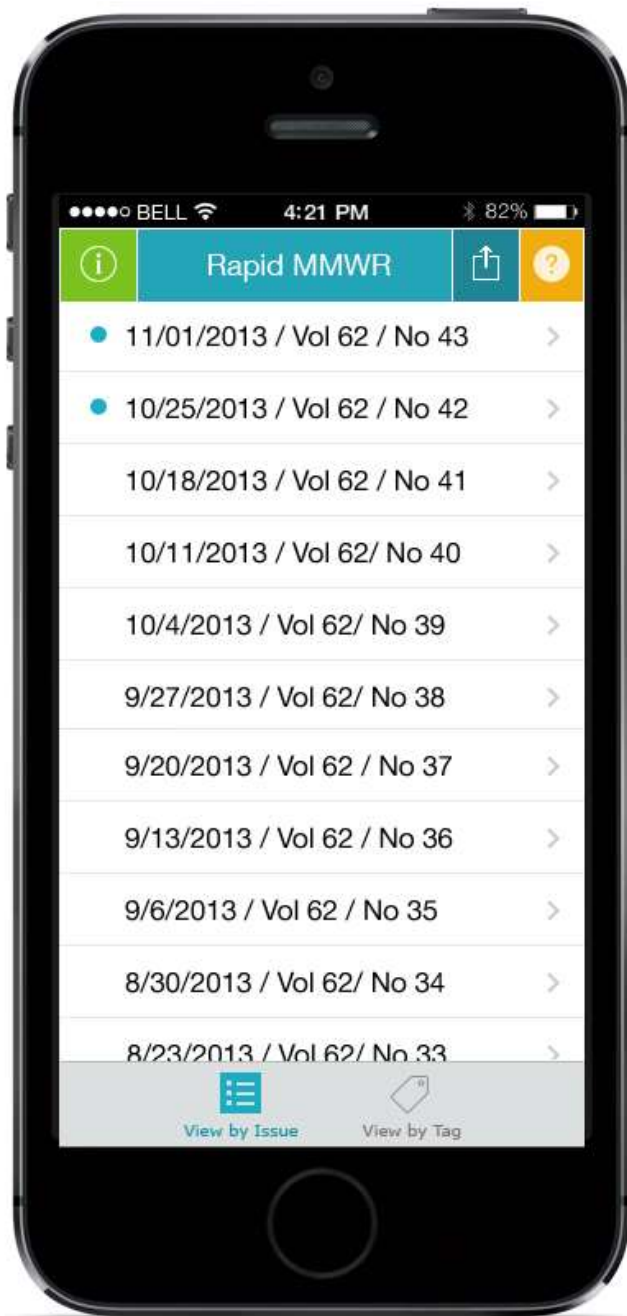
What are the implications for public

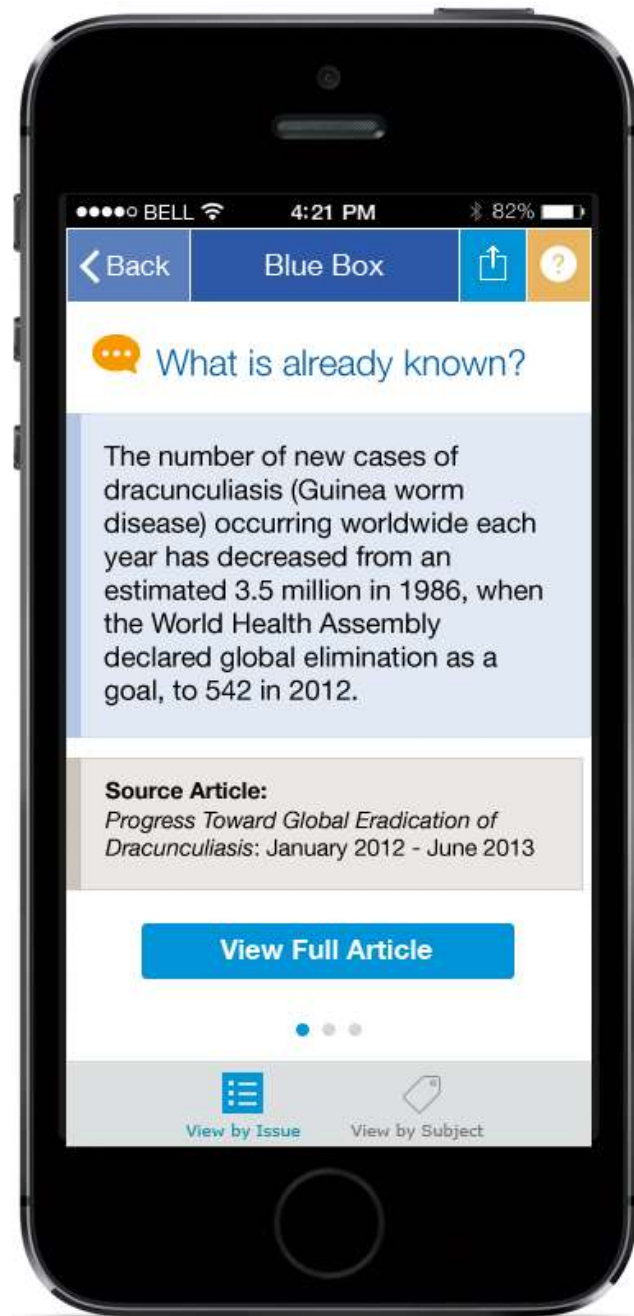
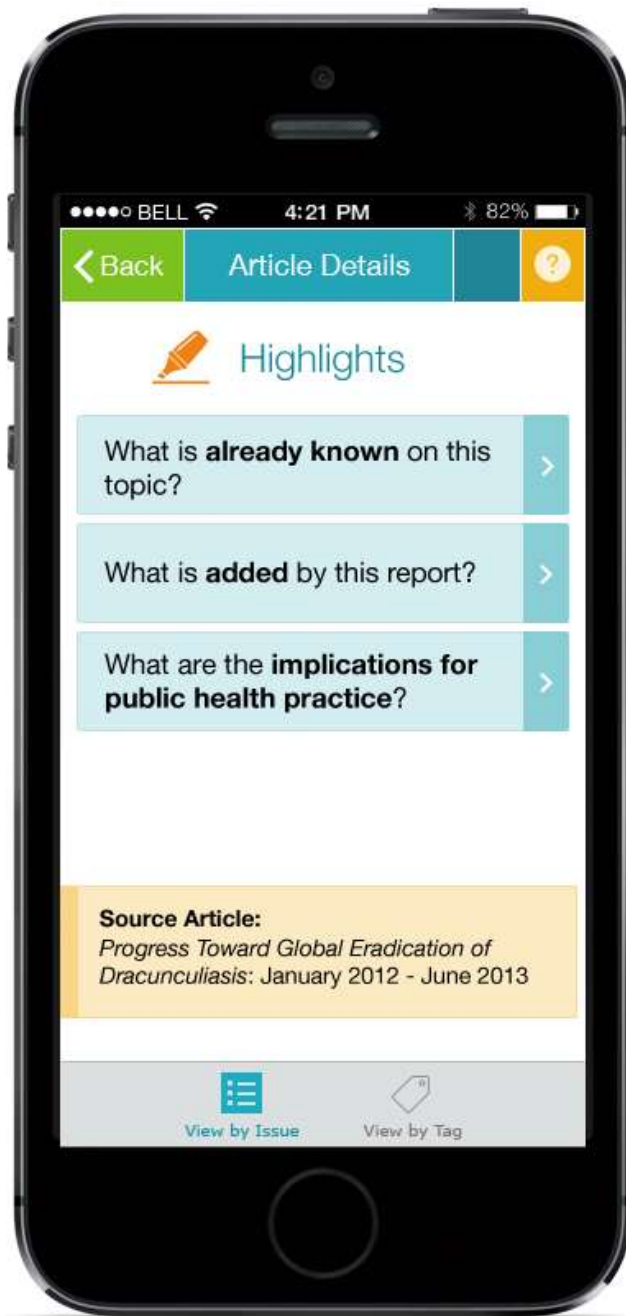
Although earlier target dates for global dracunculiasis eradication were missed, progress is accelerating, and eradication is likely within the next few years if disruption of program operations can be minimized, particularly in northern Mali.

Edit this Entry

Delete this Entry

High Fidelity Digital Mockup





 Published

 Drafts

 Add New Highlight

 Search Published

2013

Article Highlights

October 25, 2013 / Vol. 62 / No. 42 / Pg. 829-833, ND 579-592, Progress Toward Global Eradication of Dracunculiasis — January 2013–June 2013

October 25, 2013 / Vol. 62 / No. 42 / Pg. 829-833, ND 579-592, Histoplasmosis in a State Where It Is Not Known to Be Endemic — Montana, 2012–2013

October 25, 2013 / Vol. 62 / No. 42 / Pg. 829-833, ND 579-592, Update: Influenza Activity — United States and Worldwide, May 19–September 28, 2013

October 4, 2013 / Vol. 62 / No. 39 / Pg. 805-816, ND 536-549, Transmission of Mycobacterium tuberculosis in a High School and School-Based Supervision of an Isoniazid-Rifampine Regimen for Preventing Tuberculosis — Colorado, 2011–2012

Article Details

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Article Keywords

Dracunculiasis x

Global x


Parasite x

infection x


worm x

eradication x

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 What are the **implications for public health practice**?

Although earlier target dates for global dracunculiasis eradication were missed, progress is accelerating, and eradication is likely within the next few years if disruption of program operations can be minimized, particularly in northern Mali.

 Delete this Entry

 Edit this Entry

The Prototype Phase

❑ Before you build....

❑ Think about:

- How are you going to build (e.g., Agile - Scrum)
- How are you going to manage your code? (builds, etc.)
- How are you going to keep track of features, bugs, etc.?
- How are you going to distribute your app to your early testers?
- How are you going to facilitate your team's collaboration / information sharing?

❑ Here's how we tackled those questions...



CODE: An Open Source Development Tools Portal



Help

A Resource of the Informatics R&D Laboratory

CDC Public Health Informatics & Technology Program Office

Many of the tools require a **username and password** to edit or modify. Please email InformaticsLab@cdc.gov to request commit privileges or with other questions. Read-only access is available without a username and password.



Tools

- Confluence: <http://code.phiresearchlab.org/confluence> - Collaborate
- JIRA: <http://code.phiresearchlab.org/jira> - Track Projects
- Github source code repository: <https://github.com/informaticslab> - View Project Source Code



News & Updates

- Git access to project source code, not available through [Github.com](https://github.com). Subversion deprecated.
12/03/2012, 4:55 PM
- CODE resources now online and available for use: Subversion, JIRA, Confluence.
8/18/2011, 6:50 PM
- [Suggest a new feature](#), [report a bug](#) or [recommend the creation of a new project](#) through the Informatics Lab JIRA tracker.
08/18/2011, 6:57 PM

More



Other Resources

- Git clone: "git clone <https://github.com/informaticslab/shirly.git> shirly", for more information on how to use git, try the [tutorial](#).
- [deprecated, will not work for much longer]
SVN checkout: "svn co
<http://code.phiresearchlab.org/svn/informaticslab/<projectname>/trunk>"

























































About Us

CODE is a resource provided by the [CDC Informatics R&D Lab](#) for use by the public health informatics community to collaborate on software projects.

This is a new site and features will be added incrementally based on input from participants and priorities of the R&D Lab. Enjoy and collaborate away!

More

To Do	In Progress	Done
<div>  AP-67  </div> <div>  Format Node attribute names with spacing for readability <div>5</div> </div>	<div>  AP-68  </div> <div>  Add loading progress indicators to the node details and search (and linkage and...) view <div>3</div> </div>	<div>  AP-69  </div> <div>  Update the Pills navigation responsive based on current page <div></div> </div>
<div>  AP-84  </div> <div>  Refine Search page checkboxes; then get them to filter and show counts of returned search items. <div>8</div> </div>	<div>  AP-85  </div> <div>  Internet Explorer missing arrows or words in D3 Linkage Viewer <div></div> </div>	<div>  AP-70  </div> <div>  Make main navigation responsive based on current page <div></div> </div>
<div>  AP-86  </div> <div>  Investigate variety of shapes/sizes available in linkage viewer <div>5</div> </div>	<div>  AP-89  </div> <div>  Update text spacing/layout in the node detail page/bar <div>3</div> </div>	<div>  AP-71  </div> <div>  Replace dummy authenticated user with "guest" info <div></div> </div>
<div>  AP-93  </div> <div>  Add additional node properties from spreadsheet. <div>3</div> </div>	<div>  AP-91  </div> <div>  Create 1 sample quick guide entry <div>5</div> </div>	<div>  AP-82  </div> <div>  Explore/browse page links should open pre-populated search page <div></div> </div>
<div>  AP-94  </div> <div>  Flesh out browse page <div>3</div> </div>		<div>  AP-72  </div> <div>  Make the CDC link in the header open in a new window/tab <div></div> </div>
<div>  AP-13  </div> <div>  Display surveillance system tags in the details view <div>2</div> </div>		<div>  AP-87  </div> <div>  Make linkage viewer click-navigable <div>5</div> </div>
<div>  AP-96  </div> <div>  Use AWS. <div>5</div> </div>		<div>  AP-84  </div> <div>  Display current build information in Apollo page footer <div>3</div> </div>

Give GreenHopper feedback!



InformaticsLab

Pages

Blog

SPACE SHORTCUTS

File Lists

Space tools

Rapid MMWR (Project Photon)

MMWR Highlights Mobile App

High-fidelity comps of MMWR E...

Photon-Admin (Blob-The-Builde...

Pages / Home / Rapid MMWR (Project Photon)

Tools

MMWR Highlights Mobile App

2 Added by Tom Savel, last edited by Sara Brown on Nov 25, 2013 (view change)

Goal: Create a fast and easy to use mobile app to read the "blue box" sections in Weekly MMWR reports.

Key points:

- For iOS - specifically iPhone / iPod touch
 - based on feedback - will expand to other platforms - e.g., Android
- Rapid
- Easy to use

Here is a link to a PDF which contains the 1st draft of a low-fidelity digital mockup - with 19 screenshots:

[rapidMMWR_10312013.pdf](#)

It includes both the mobile app as well as a administration website which would be used by the MMWR staff to populate the mobile app.

A similar version of this PDF is also available on [notableapp.com](#) (which allows for comments / feedback)

Second round of high fidelity digital mockups can be found [here](#). (Note: On page 7 of this PDF, the screen's main header reads, "Rapid MMWR." This was an oversight. It should read, "MMWR Express.")

UI color specfications for Greg's implementation can be found [here](#).

High-fidelity mock-ups of screens under the "Info" button: [PDF here](#)

No labels

1 Comment

Sara Brown



CDC Public Health Informatics Lab

Atlanta

<http://www.phiresearchl...>

InformaticsLab@cdc.gov

Filters ▾

apollo

CSS 0 0

Integrated Surveillance Portal web site.

Updated 23 minutes ago

photon

Objective-C 1 1

Updated 3 hours ago

site

PHP 1 0

Joomla installation for main Lab web site

Updated 4 days ago

pedigree

Objective-C 0 0

Family Heath iPhone App prototype

Updated 7 days ago

lab-graphics

0 1

Members

5



PUBLIC

informaticslab / **photon**

Star

1

Fork

1

156 commits

1 branch

0 releases

2 contributors

branch: master ▾

photon /

Made changes to EULA after app was rejected due to the mention of oth... ▾



gsledbetter authored 8 days ago

latest commit ea7bfcc64f

photon.xcodeproj	Made changes to EULA after app was rejected due to the mention of oth...	8 days ago
photon	Made changes to EULA after app was rejected due to the mention of oth...	8 days ago
photonTests	Initial Commit	6 months ago
.gitignore	Adding Readme markdown for github and git ignore file for OS X and Xc...	6 months ago
Issues.json	Redesign of IssueManager and added JsonParser to handle multiple vers...	3 months ago
PreloadIssues.json	Fixed errors in preload JSON blobs. Fixed nav bar tint color issues. ...	2 months ago
README.md	Adding link to issue tracker	3 months ago
photon copy-Info.plist	Use DebugLog macro for debugging so that a Release build does not hav...	a month ago

README.md

Rapid MMWR iPhone App (Photon)

The Rapid MMWR iPhone app provides quick access to highlights from each article in the MMWR Weekly.

Issue tracker is available: [JIRA](#)

Code

[Issues](#)

0

[Pull Requests](#)

0

[Pulse](#)[Graphs](#)[Network](#)

HTTPS clone URL

<https://github.com>

You can clone with [HTTPS](#) or [Subversion](#).

[Clone in Desktop](#)[Download ZIP](#)

PUBLIC

informaticslab / **photon-admin**

forked from pwhitebe/Photon-Admin

Star

0

Fork

2

The Photon-Admin is a web-application that used to help manage and publish content for the Rapid MMWR iPhone app (Photon)

25 commits

3 branches

12 releases

2 contributors

branch: master ▾

photon-admin /

This branch is 0 commits ahead and 0 commits behind master

[Pull Request](#)[Compare](#)

Fetch button clears tags ...



pwhitebe authored 3 months ago

latest commit 993da43bf7

css	Updated CSS files and layout with SaraBrown improvements	5 months ago
images	Updated CSS files and layout with SaraBrown improvements	5 months ago
js	Active fancy keyword addition	6 months ago
PhotonAdmin.html	Fetch button clears tags	3 months ago
README.md	More touches of fancy	6 months ago

README.md

Photon-Admin

The Photon-Admin is a web-application that used to help manage and publish content for the Rapid MMWR iPhone app (Photon)

Issue tracker is available through [Lab Jira](#)

Code

[Pull Requests](#)

0

[Pulse](#)[Graphs](#)[Network](#)

HTTPS clone URL

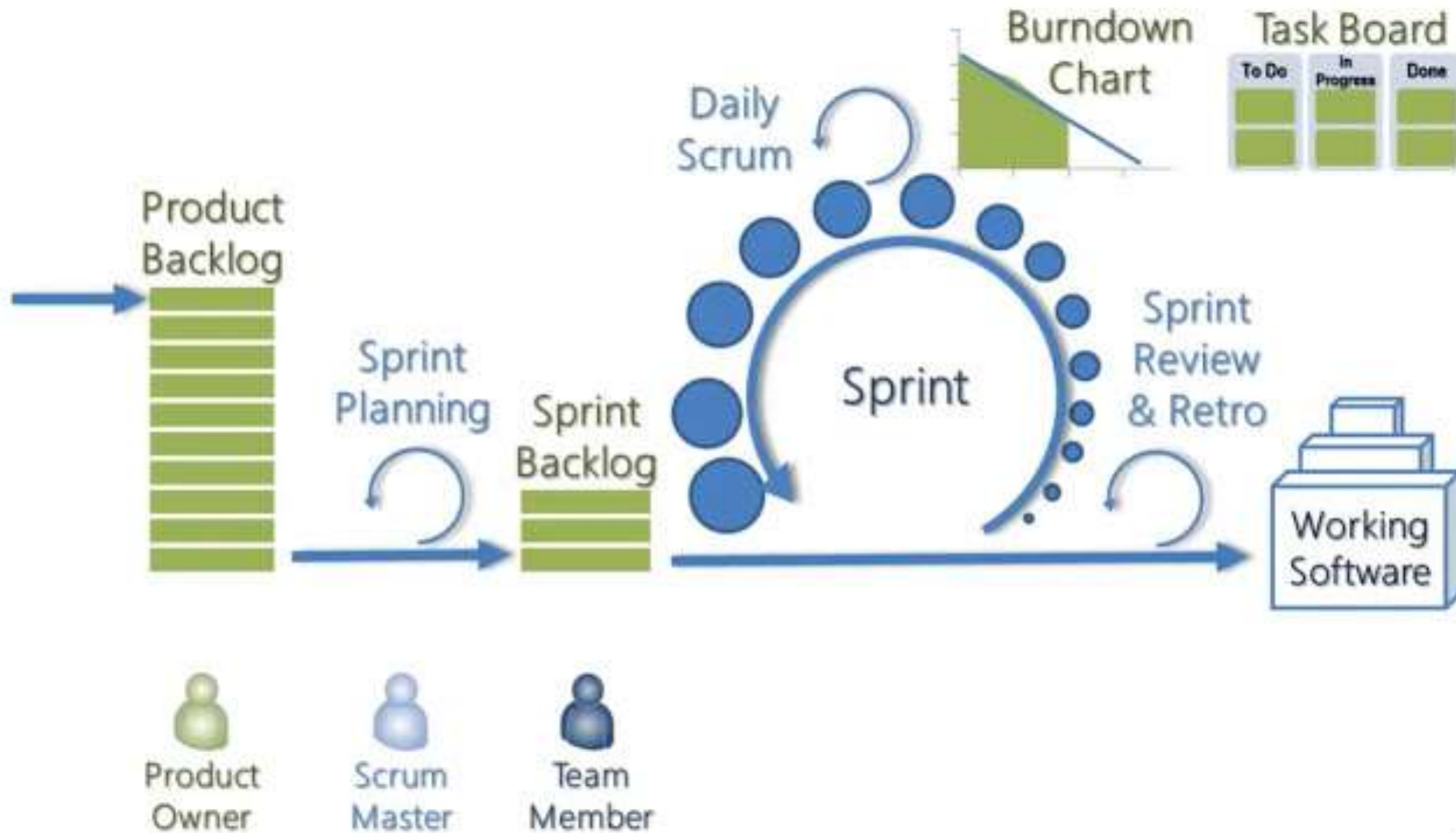
<https://github.com>

You can clone with [HTTPS](#) or [Subversion](#).

[Clone in Desktop](#)[Download ZIP](#)

The Prototype Phase

- ❑ **Also, before you build....think about:**
 - OS Version requirements (e.g., iOS 6 vs 7j)
 - Keep in mind the Pareto principle (80/20 rule)
 - Platform requirements (e.g., Universal app?)
 - iPhone, iPad, etc.
 - Overall Architecture
 - API Issues?
 - Does your app pull or push data?
 - Does it integrate with a separate web app?
 - Data persistence issues?
 - What data does your app store?
 - Security issues, etc.?



	Functionality 01		Functionality 02		Functionality 03		Functionality 04	
Sprint 13			User Story	User Story			User Story	User Story
			User Story	User Story			User Story	
Sprint 14	User Story	User Story	User Story	User Story	User Story			User Story
		User Story	User Story					
Sprint 15			User Story	User Story	User Story	User Story		
			User Story					User Story
Backlog	User Story	User Story	User Story	User Story	User Story	User Story	User Story	
	User Story	User Story	User Story	User Story	User Story	User Story		
	User Story	User Story	User Story					
	User Story							

The Prototype Phase

- ❑ The design and technical infrastructure continued to evolve and be refined....



MMWR Express



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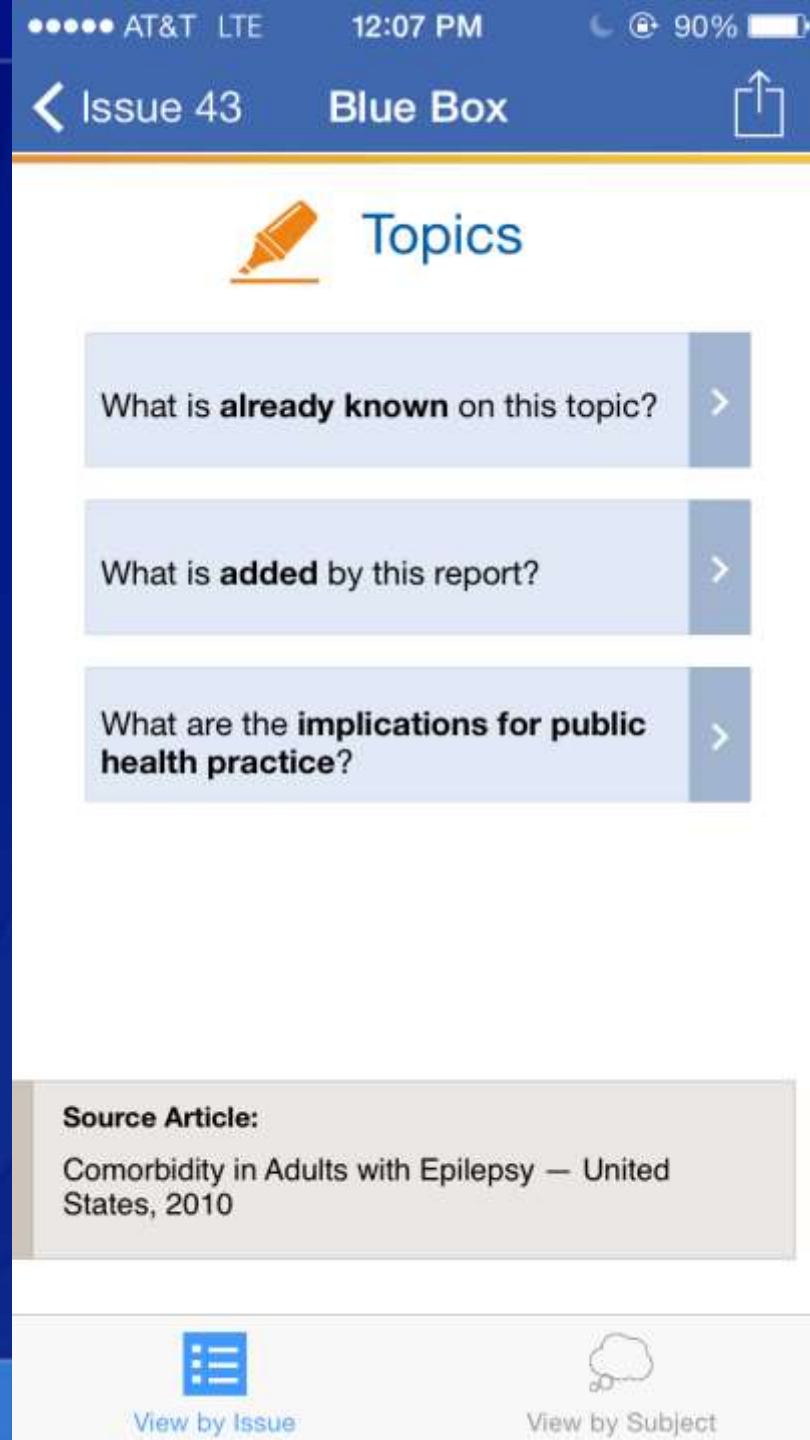
10-25-2013 / Vol 62 / Issue 42



View by Issue



View by Subject



This page was
completely
removed...

(not just
modified)

by the end of the
prototype phase



Back

Blue Box



What is added by this report?

This study, based on the 2010 National Health Interview Survey, found that adults with epilepsy reported co-occurring cardiovascular, respiratory, some inflammatory, and other disorders more frequently than respondents without epilepsy.

Source Article:

Comorbidity in Adults with Epilepsy — United States, 2010

[View Full Article](#)[View by Issue](#)[View by Subject](#)

Photon Admin JSON Generator

Article URL:

Auto Fetch Article

Issue Date:

Volume Number:

Issue Number:

Article Title:

Article Subjects:

Type a keyword, then hit Enter. Surround "multi-word keywords" with quotation marks.

[No Title]

Blue Box Topics



What is already known on this topic?



What is added by this report?



What are the implications for public health practice?

Serialize Form Values

JSON Blurb:

Photon Admin JSON Generator

Article URL:

Auto Fetch Article

Issue Date: Volume Number: Issue Number: Article Title:

Article Subjects:

Hepatitis C ×

Arizona ×

Utah ×

Type a keyword, then hit Enter. Surround "multi-word keywords" with quotation marks.

Blue Box Topics



What is already known on this topic?

In the United States, about 3 million persons are estimated to be living with hepatitis C virus (HCV) infection, which is an important cause of morbidity and mortality. However, there is a documented lack of expertise in HCV-related care and treatment among U.S. primary



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The Project ECHO model was successfully implemented in two states, training 66 primary care clinicians, predominantly from rural settings. Nearly all (93%) of the clinicians had no prior experience in care and treatment of HCV infection. In both states combined, 46%



What are the implications for public health practice?

The Project ECHO model is an effective evidence-based model that can be used by state and local areas to enhance capacity to manage and treat HCV infection, especially among underserved populations.

Serialize Form Values

JSON Blob:

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{ "issue-date": "2014-05-09", "issue-vol": "63", "issue-no": "18", "title": "Expanding Primary Care Capacity to Treat Hepatitis C Virus Infection Through an Evidence-Based Care Model - Arizona and Utah, 2012-2014", "already_known": "In the United States, about 3 million persons are estimated to be living with hepatitis C virus (HCV) infection, which is an important cause of morbidity and mortality. However, there is a documented lack of expertise in HCV-related care and
```

Please copy (Control+C) and paste the JSON Blob into the [CDC Content Syndication Service Admin Site](#).

JSON Blob

```
{
  "issue-date": "2014-05-09",
  "issue-vol": "63",
  "issue-no": "18",
  "title": "Expanding Primary Care Capacity to Treat Hepatitis C Virus Infection Through an Evidence-Based Care Model — Arizona and Utah, 2012–2014",
  "already_known": "In the United States, about 3 million persons are estimated to be living with hepatitis C virus (HCV) infection, which is an important cause of morbidity and mortality. However, there is a documented lack of expertise in HCV-related care and treatment among U.S. primary care providers and limited access to specialists, both of which serve as barriers to life-saving treatment for those who are infected. The Extension for Community Healthcare Outcomes project (Project ECHO) has been shown to be an effective model to overcome these barriers.",
  "added_by_report": "The Project ECHO model was successfully implemented in two states, training 66 primary care clinicians, predominantly from rural settings. Nearly all (93%) of the clinicians had no prior experience in care and treatment of HCV infection. In both states combined, 46% of HCV-infected patients seen in teleECHO clinics received antiviral treatment, a proportion that was more than twice that observed in a CDC study, further demonstrating the utility of this approach in expanding the capacity of primary care providers to treat HCV infection.",
  "implications": "The Project ECHO model is an effective evidence-based model that can be used by state and local areas to enhance capacity to manage and treat HCV infection, especially among underserved populations.",
  "tags": [
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    { "tag": "Arizona" },
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  "schema-ver": "1"
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3352	2014-05-09 / Vol. 63 / No. 18 Primary and Secondary Syphilis — United States, 2005–2013		<input checked="" type="checkbox"/>	5/8/2014 2:21:49 PM	<input checked="" type="checkbox"/>
3351	2014-05-09 / Vol. 63 / No. 18 Early Identification and Linkage to Care of Persons with Chronic Hep		<input checked="" type="checkbox"/>	5/8/2014 2:11:19 PM	<input checked="" type="checkbox"/>
3347	2014-05-09 / Vol. 63 / No. 18 Expanding Primary Care Capacity to Treat Hepatitis C Virus Infection		<input checked="" type="checkbox"/>	5/8/2014 2:08:04 PM	<input checked="" type="checkbox"/>
3311	2014-05-02 / Vol. 63 / No. 17 Outbreak of Campylobacteriosis Associated with a Long-Distance Obsta		<input checked="" type="checkbox"/>	5/2/2014 9:56:10 AM	<input checked="" type="checkbox"/>
3312	2014-05-02 / Vol. 63 / No. 17 Falls and Fall Injuries Among Adults with Arthritis — United States,		<input checked="" type="checkbox"/>	5/1/2014 9:59:19 AM	<input checked="" type="checkbox"/>
3310	2014-05-02 / Vol. 63 / No. 17 Potentially Preventable Deaths from the Five Leading Causes of Death		<input checked="" type="checkbox"/>	5/1/2014 9:49:55 AM	<input checked="" type="checkbox"/>
3275	2014-04-25 / Vol. 63 / No. 16 Surveillance Systems to Track Progress Toward Global Polio Eradicati		<input checked="" type="checkbox"/>	4/24/2014 2:01:02 PM	<input checked="" type="checkbox"/>
3274	2014-04-25 / Vol. 63 / No. 16 Benefits from Immunization During the Vaccines for Children Program		<input checked="" type="checkbox"/>	4/24/2014 1:58:57 PM	<input checked="" type="checkbox"/>
3273	2014-04-25 / Vol. 63 / No. 16 Indoor Firing Ranges and Elevated Blood Lead Levels — United States,		<input checked="" type="checkbox"/>	4/24/2014 1:55:50 PM	<input checked="" type="checkbox"/>
3272	2014-04-25 / Vol. 63 / No. 16 Occupational Ladder Fall Injuries — United States, 2011		<input checked="" type="checkbox"/>	4/24/2014 1:51:34 PM	<input checked="" type="checkbox"/>

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3312 2014-05-02 / Vol. 63 / No. 18 | Primary and Secondary Syphilis — United States, 2005–2013

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3275 2014-04-25 / Vol. 63 / No. 18 | Primary and Secondary Syphilis — United States, 2005–2013

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General Information

► Short Title 2014-05-09 / Vol. 63 / No. 18 | Primary and Secondary Syphilis — United States, 2005–2013

► Long Title 2014-05-09 / Vol. 63 / No. 18 | Primary and Secondary Syphilis — United States, 2005–2013

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► Publication Date 5/8/2014 2:21:49 PM

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14 9:49:55 AM ☒

014 2:01:02 PM ☒

014 1:58:57 PM ☒

014 1:55:50 PM ☒

014 1:51:34 PM ☒

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The Pilot Phase

❑ Challenges

- Facilitate app distribution
- Fast fixes and re-release
- Tracking of bugs
- Tracking of feature requests from beta testers

❑ **The App will need those help screens now!**

❑ **Tools which help us:**



A tool for the Lab, CDC, & its community partners to test and collaborate on innovative mobile apps

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iPhone Prototypes



PTT Advisor

Assists clinical providers in their evaluation of patients with an abnormal clinical laboratory blood test, specifically an abnormal PTT (Partial Thromboplastin Time).

[View in iTunes](#)



Graduated to the Apple App Store: 7/6/12



NIOSH Facepiece Respirator Guide

Built in collaboration with The National Institute for Occupational Safety and Health (NIOSH). For quickly exploring the database of NIOSH-approved particulate filtering facepiece respirators.

[View in iTunes](#)

Released: 6/4/12



ATSDR ToxGuide

Quick reference guide provides information such as chemical and physical properties, sources of exposure, minimal risk levels, children's health, and health effects.

[View in iTunes](#)

Released: 6/4/12



STD Guide, Version 2

Early mobile application for STD Treatment Guidelines on the identification of STDs.

[View in iTunes](#)

Early-stage prototype



STD Guide, Version 2

Enhanced prototype for CDC's 2010 STD Treatment Guidelines. A Reference for clinicians on the identification of and treatment regimen for STDs. Version 2 has a more "portal" feel than v1.

[View in iTunes](#)



Early-stage prototype



Mobile Prototyping

These limited prototypes feature functional mobile development tools, we are able to

[View Apps](#)

Tool-testing prototype



STD Guide, Version 3

The goal of this unique prototype has been to collaborate with CDC's STD team to design mobile apps for the iOS and Android operating systems based on the 2010 STD Treatment Guidelines.





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The Launch / Transition to Production Phase

- ❑ **No “cookie cutter” approach**
- ❑ **Variability based on**
 - Platform
 - iOS vs Android
 - Organization
 - Federal, State, Academic
- ❑ **License and EULA issues have to be addressed!**



MMWR Express



Updating articles...

MAR 28, 2014

VOL 63 NO 12

State Medicaid Coverage for Tobacco Cessation Treatments and Barriers to Coverage — United States, 2008–2014



Invasive Cancer Incidence — United States, 2010



MAR 21, 2014

VOL 63 NO 11

● Update on Vaccine-Derived Polioviruses — Worldwide, July 2012–December 2013



Combined Use of Inactivated and Oral Poliovirus Vaccines in Refugee Camps and Surrounding Communities —



Articles



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AT&T

3:10 PM

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Summary



What is already known?

A second dose of varicella vaccine was recommended for children by the Advisory Committee on Immunization Practices in 2007, and the recommendation has been followed by decreases in varicella incidence nationwide. However, estimates of 2-dose varicella vaccination coverage have not been available previously.



Articles



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Q Search

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Algal Blooms



Arkansas



Botswana



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Current Cigarette Smoking Among Adults — United States, 2005–2012

Published on Jan 17, 2014

Volume 63, Number 2

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Current Cigarette Smoking Among
Adults — United States, 2005–2012



Progress Along the Continuum of
HIV Care Among Blacks with
Diagnosed HIV— United States,
2010



Declines in Student Obesity
Prevalence Associated with a
Prevention Initiative - King County,
Washington, 2012



Lung Cancer Incidence Trends
Among Men and Women — United
States, 2005–2009



Feb 28, 2014 Vol 63 No 8

Two-Dose Varicella Vaccination Coverage Among Children Aged 7 years — Six Sentinel Sites, United States, 2006–2012



Feb 21, 2014 Vol 63 No 7

Update: Influenza Activity - United States, September 29, 2013–February 8, 2014



Influenza-Associated Intensive-Care Unit Admissions and Deaths — California, September 29, 2013–January 18, 2014



Declines in Student Obesity Prevalence Associated with a Prevention Initiative - King County, Washington, 2012



Interim Estimates of 2013–14 Seasonal Influenza Vaccine Effectiveness — United States, February 2014



Follow-Up of Infants Diagnosed with HIV - Early Infant Diagnosis Program, Francistown, Botswana, 2005–2012



Histoplasmosis Associated with a Bamboo Bonfire — Arkansas, October 2011



What is already known?

The association of *Histoplasma capsulatum* with bird feces, bat guano, or disturbed ground has long been established.



What is added by this report?

This report describes efficient transmission of *H. capsulatum* in the setting of a bonfire of bamboo that was previously used as a blackbird roost. This bonfire was the only common exposure reported by all ill attendees.



What are the implications for public health practice?

Clinicians should be aware that exposure to a bonfire of bamboo in which birds have previously roosted might be a risk factor to consider when questioning patients with signs and symptoms of histoplasmosis.





Free

This app is designed for both iPhone and iPad.

No Ratings

Rating: 4+

LINKS

License Agreement

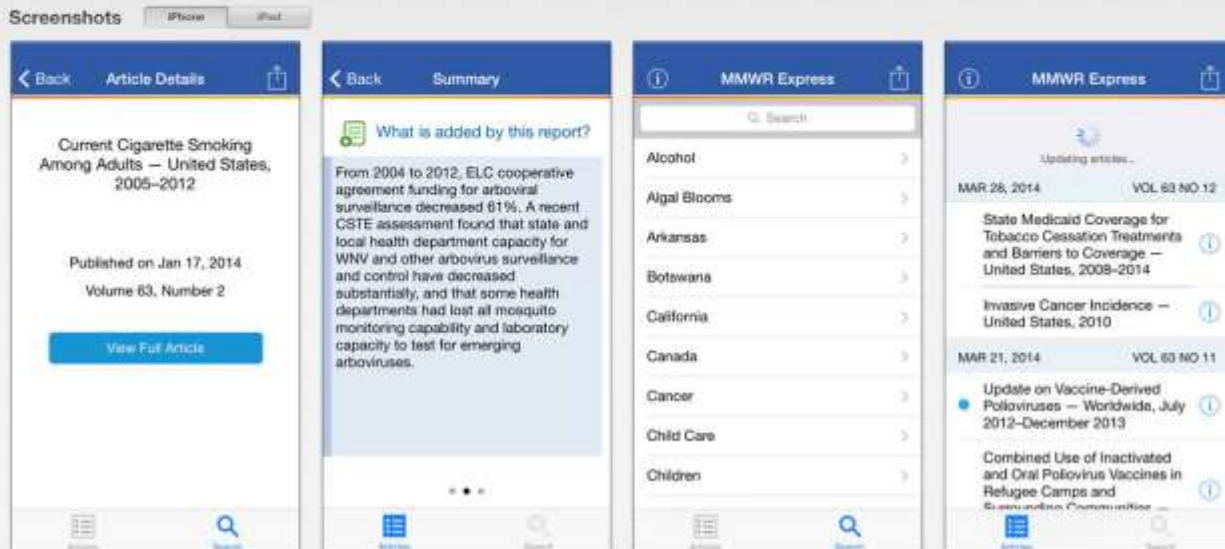
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MMWR Express

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Details Ratings and Reviews Related

Screenshots



Description

MMWR Express provides fast access to the blue summary boxes in MMWR's Weekly Report.

The Morbidity and Mortality Weekly Report (MMWR) series is prepared by the Centers for Disease Control and Prevention (CDC). Often called "the voice of CDC," the MMWR series is the agency's primary vehicle for scientific publication of timely, reliable, authoritative, accurate, objective, and useful public health information and recommendations.

Summaries are viewable by specific MMWR article, or by searching for a specific subject (e.g., salmonella).

This application is a result of collaboration between CDC's MMWR staff and the Informatics Innovation Unit staff within the Office of Public Health Scientific Services.

Features:

- Allows user to search for summaries by either specific MMWR article or by specific subject (e.g., salmonella).
- Rapidly loads new unread articles when user swipes down on the main list of articles.
- Automatically marks each unread article with a blue dot, which disappears once the summary blue box has been viewed.
- Enables the sharing of articles via email, text message, Facebook, and Twitter.
- Provides easy access to full articles on the main MMWR site, if the user wants more information.

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Information

Seller	Centers for Disease Control and Prevention
Category	Medical
Updated	May 6, 2014
Version	1.0.0
Size	3.2 MB
Rating	Rated 4+

Reuse Opportunities

- ❑ **Our Knowledge- Prototyping / Development Process**
 - How we design
 - Mockups, etc.
 - How we build
 - Collaboration, code management, automated build process, etc.
 - Scrum
 - How we test /deploy
 - How we Collaborate
- ❑ **Tools – What we've created, as well as what we use...**
 - Applab, JIRA, Confluence, Github
- ❑ **Our Code**
 - To this and other projects

Potential Enhancement Areas

❑ Current App

▪ Enhancements

- Videos, interactive graphics, new MMWR content types: Vital Signs, Notes from the Field, etc.
- Stateful vs Stateless content repository tool

❑ New Apps

- Android Platform
- Windows Platform

Validated Learning / Lessons Learned - General

- ❑ **Every app has its limitations**
- ❑ **The Good vs The Perfect**
- ❑ **Incremental Approach**
- ❑ **Value of the mockup**
- ❑ **Small real estate is never simple**
- ❑ **There are always trade-offs**
 - e.g., Responsive Design vs. Native
- ❑ **Find the balance: Creativity vs. Discipline**

Validated Learning / Lessons Learned - Specific

- ❑ **Value of the CDC Content Syndication tool for dynamic data**
- ❑ **Early coordination with OADC**
- ❑ **Value of creating tablet versions of smartphone apps**
- ❑ **Data entry issues:**
 - Focusing on keeping level of effort low
 - Providing support / training for data entry is key

Thank you!

For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333

Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348

Visit: www.cdc.gov | Contact CDC at: 1-800-CDC-INFO or www.cdc.gov/info

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.





